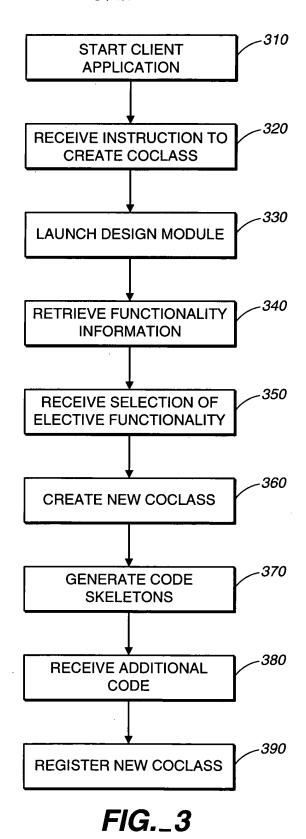


FIG._2

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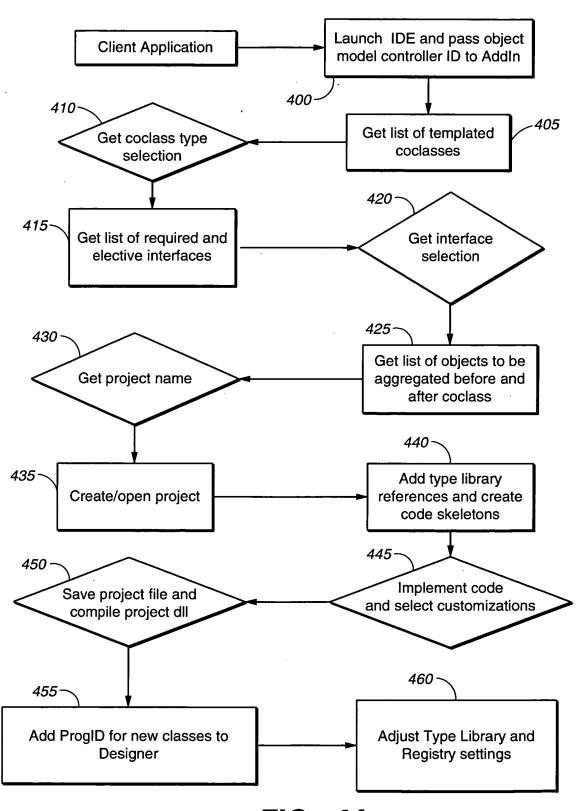
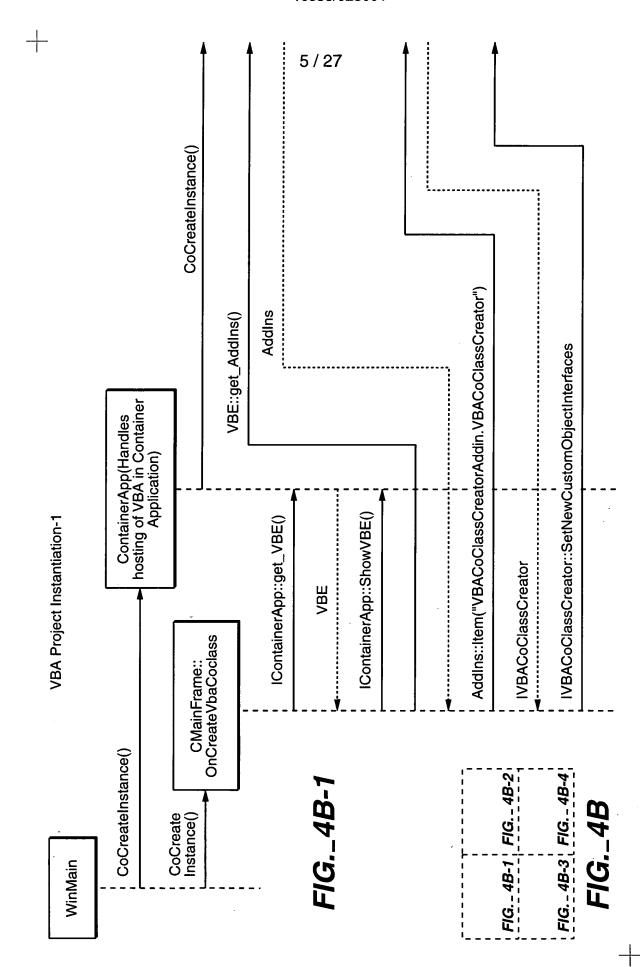
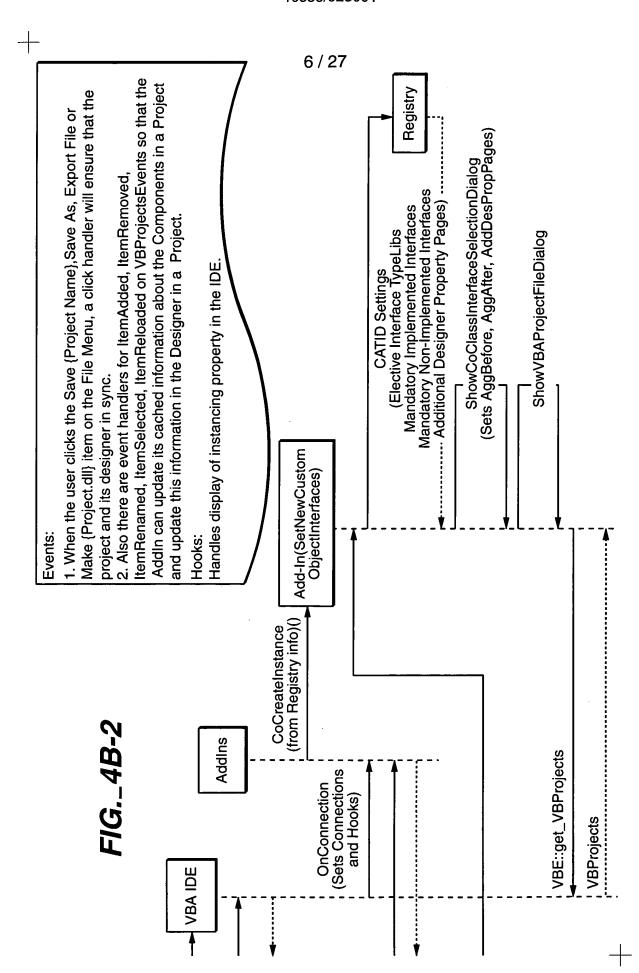


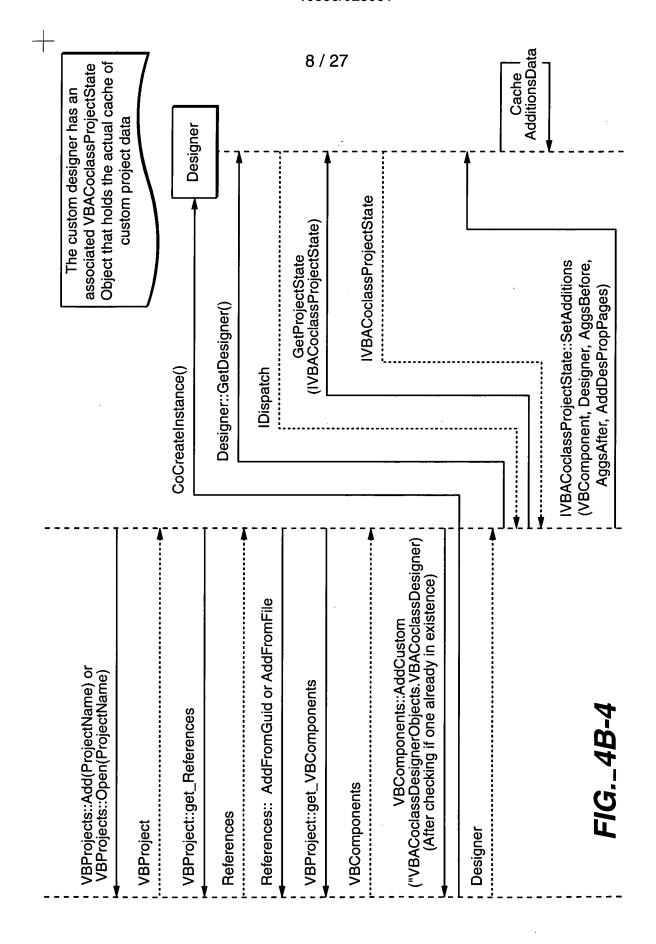
FIG._4A



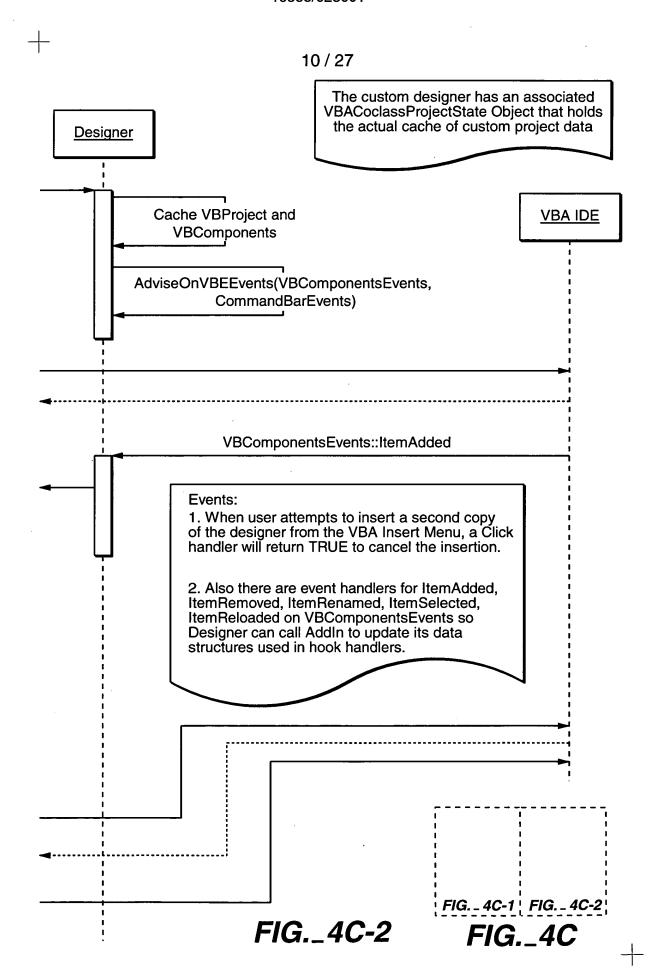


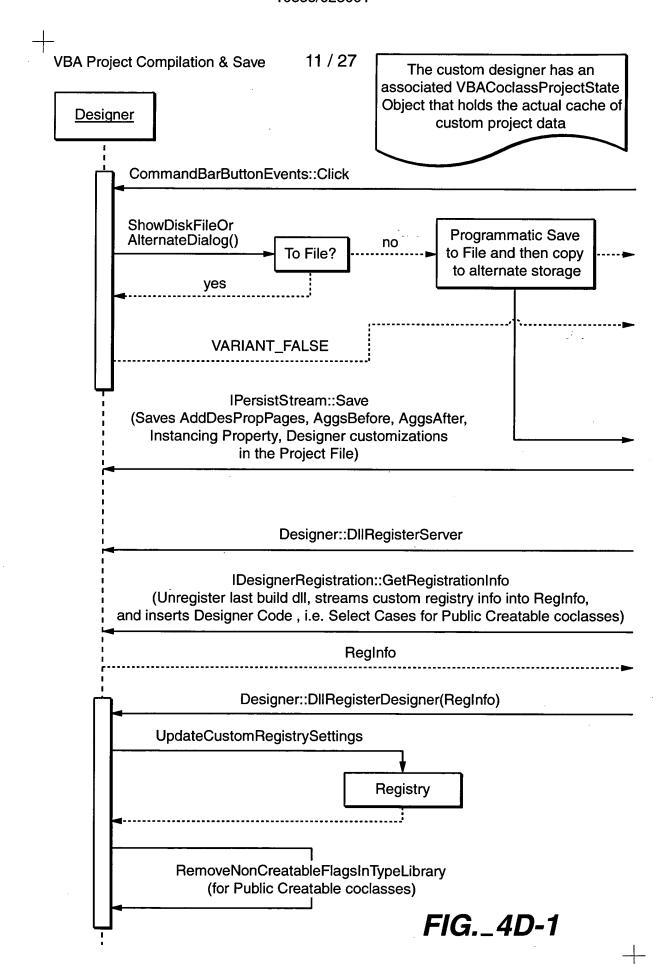
To allow alternate storage such as to a database for now it will be necessary to persist the project file to a disk file first because the MT implementation only allows persistence in a disk file.

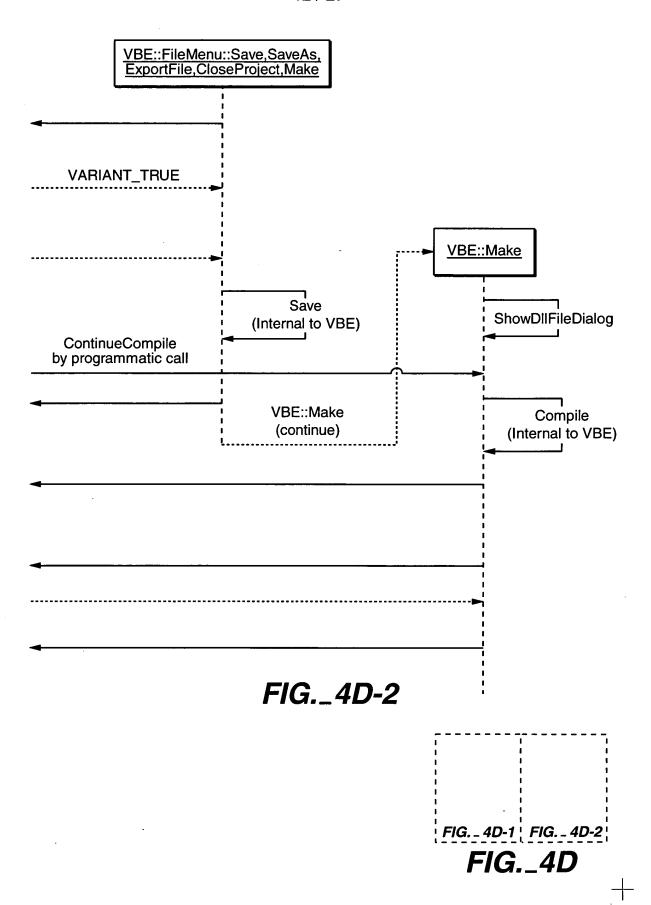
FIG._4B-3

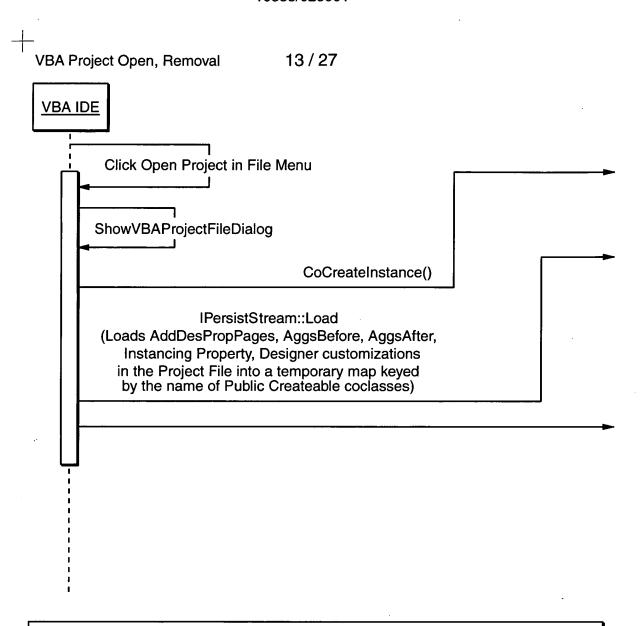


9/27 **VBA Project Instantiation-2** Add-In(SetNewCustomObject IVBACoclassProjectState::AttachStateObject Interfaces continued) (VBComponent(VBA coclass), VBComponent (VBA designer), IManageVBACoclassDesigner, VBProject, VBComponents) VBComponents::Add (vbext_ct_ClassModule) **VBComponent** IIVBACoclassCreator::ComponentAdded (IManageVBACoclassDesigner, VBProject, VBComponent(VBA coclass), InitialInstancing PropertyValue) (Info used in hook handlers) GenerateInterfaceCode(IIDs) IVBACodeGenerator:: GenerateVBACode(IID) for each IID **VBACodeGenerator CATIDs** VBComponent::get_CodeModule CodeModule CodeModule::InsertLines(Code) FIG._4C-1



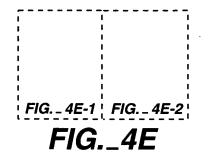


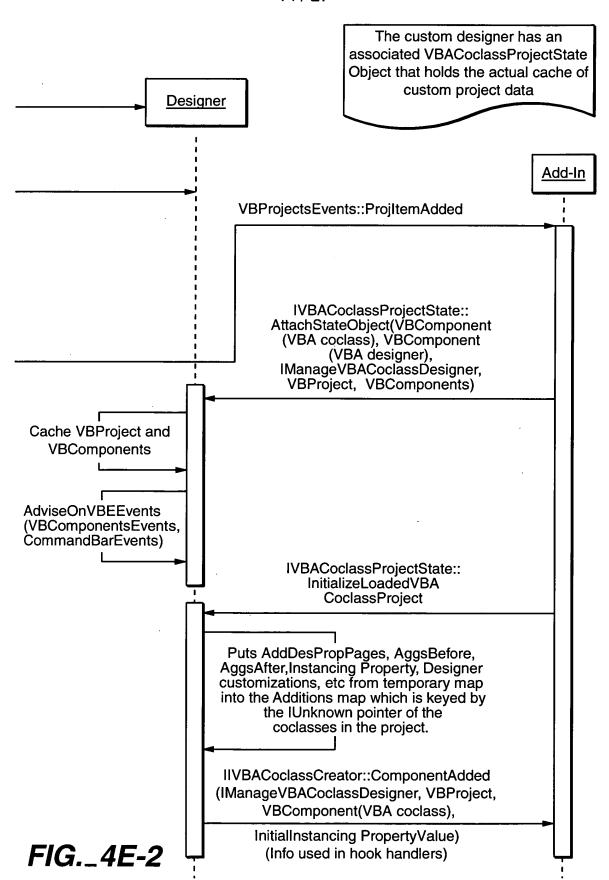




When the user selects deleting a project from the VBA IDE, the VBProjectsEvents:: ProjltemRemoved handler in the Addin removes the project's custom settings in the data structures in the Addin. Also when the user inserts/deletes a designer into/from a project, or inserts/deletes a class into/from a project, the VBCommandBarEvents:: Click event handler in the Addin and designer, respectively, add to or delete from the data caches in the Addin and designer.

FIG._4E-1





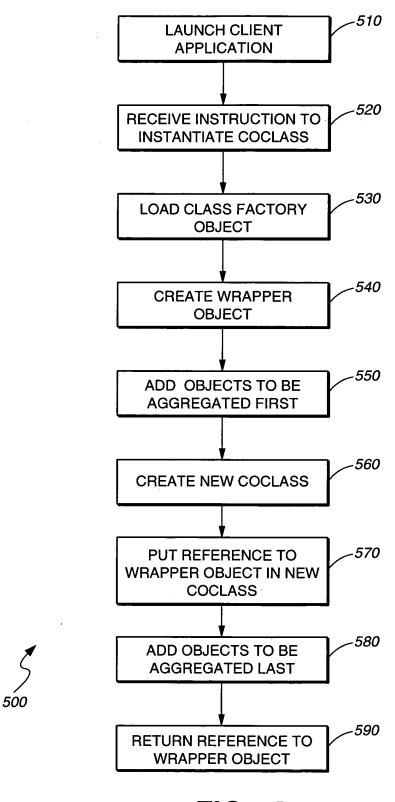


FIG._5

16/27 **VBA** Object Instantiation DIIGetClassObject caches the Coclass VBACoclassWrapperObj::FinalConstruct CLSID and returns the class factory for the Wrapper object. Client VBAWrapperObj (FinalConstruct) CoCreateInstance (CoclassCLSID) CoclassCLSID Registry **DesClassFactoryProgID** CoclassCLSID Registry AggsBeforeCLSIDs, AggAfterCLSIDs CreateAggsBefore and AddToAggObjectVector CoCreateInstance() IDispatch::QueryInterface (ISymyxVbaClassFactory) ISymyxVbaClassFactory AddToAggObjectVector (VBACoclass) AddCoclassToAggObjectVector and CreateAggsAfter and AddToAggObjectVector FIG._6A | FIG._6B FIG._6 FIG._6A

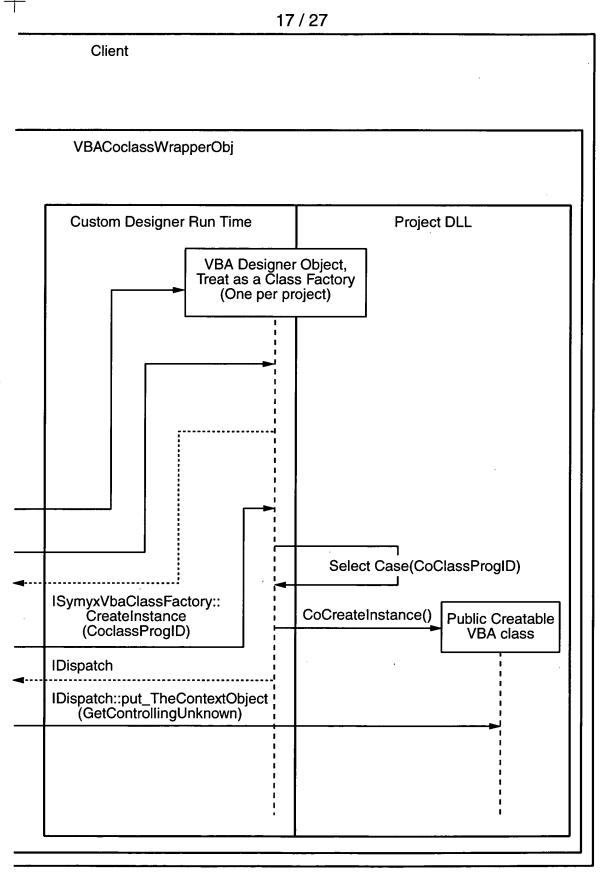


FIG._6B

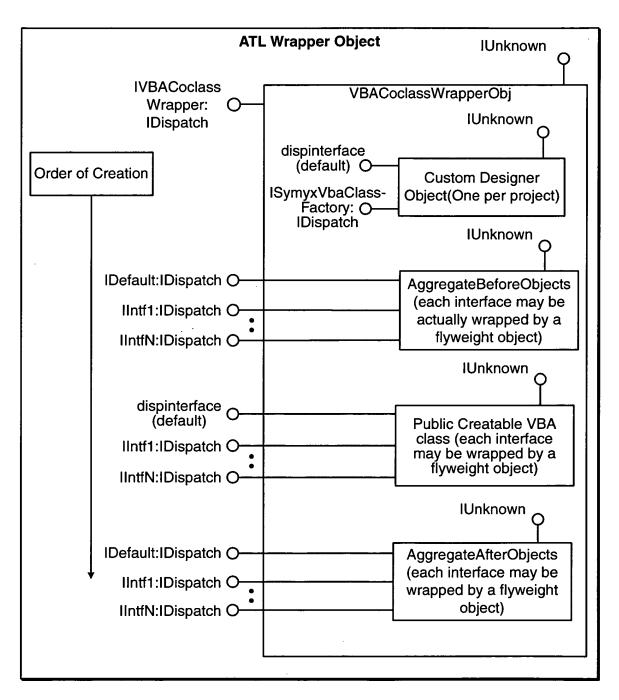
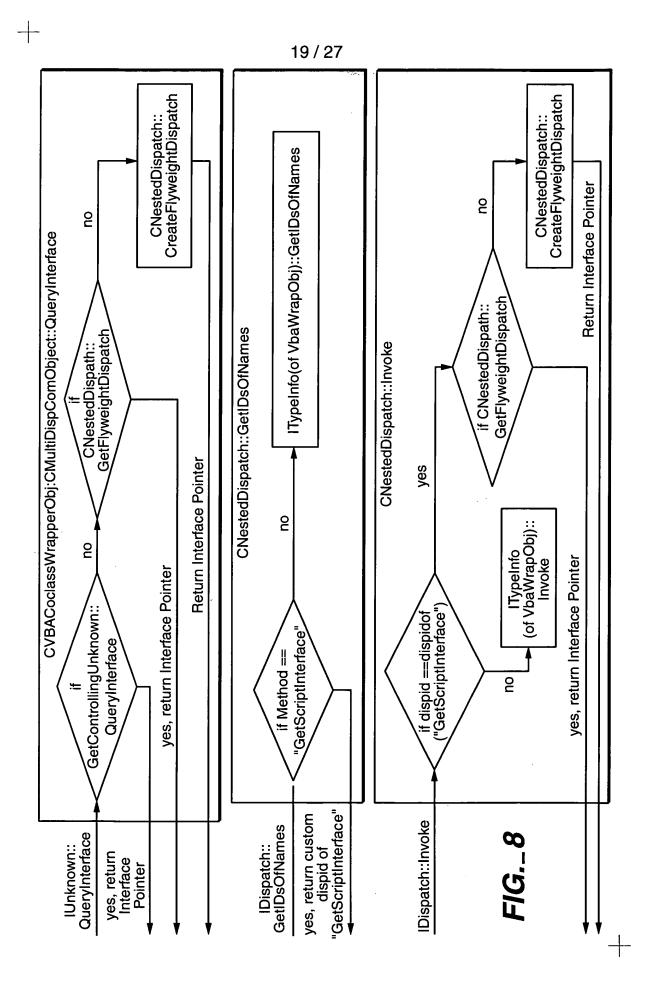


FIG._7



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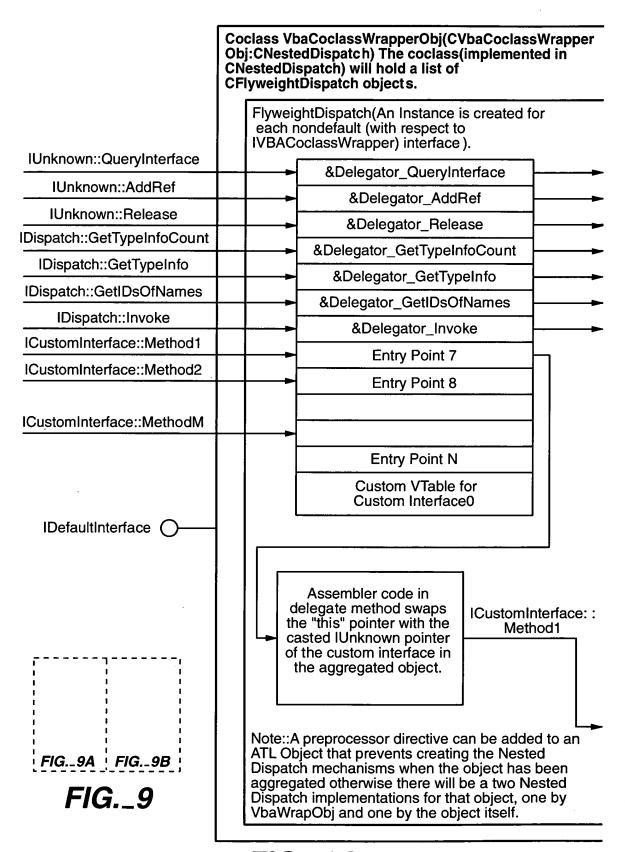


FIG._9A

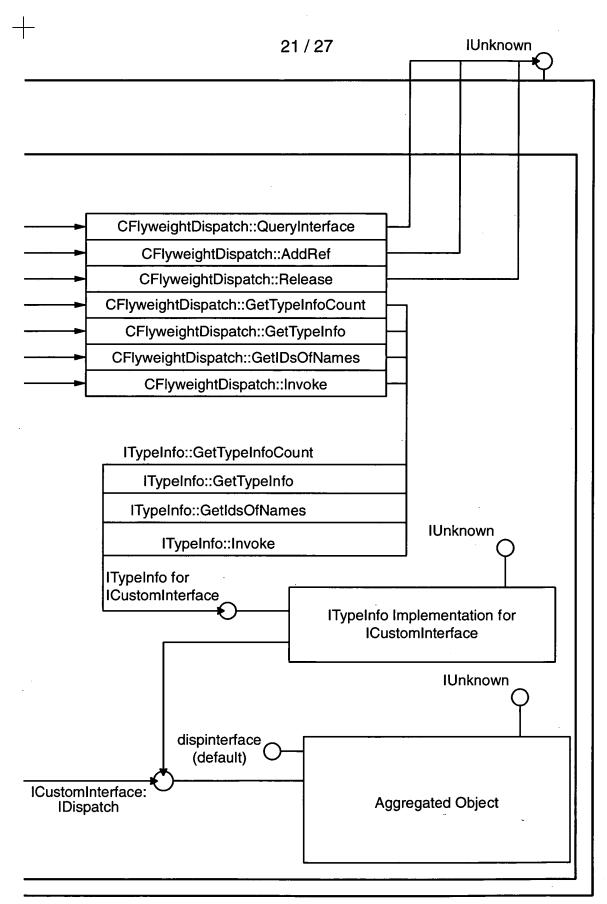
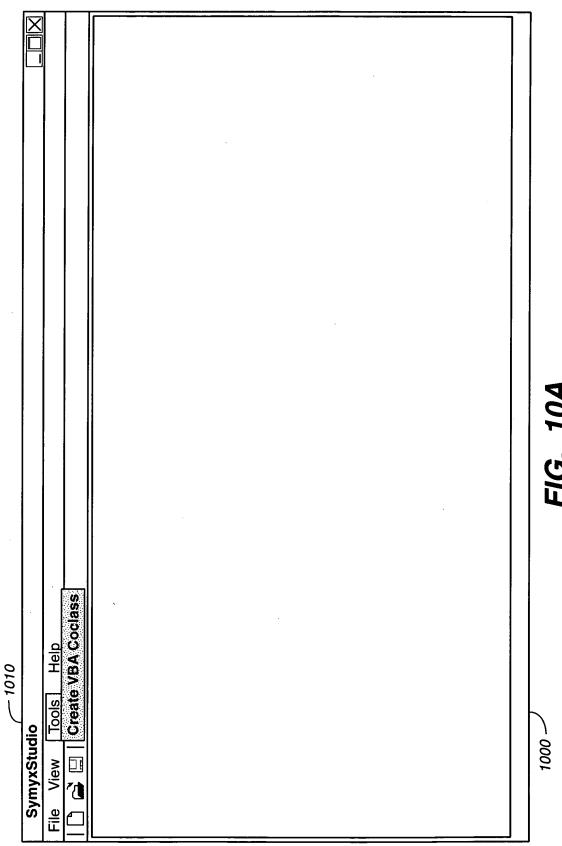
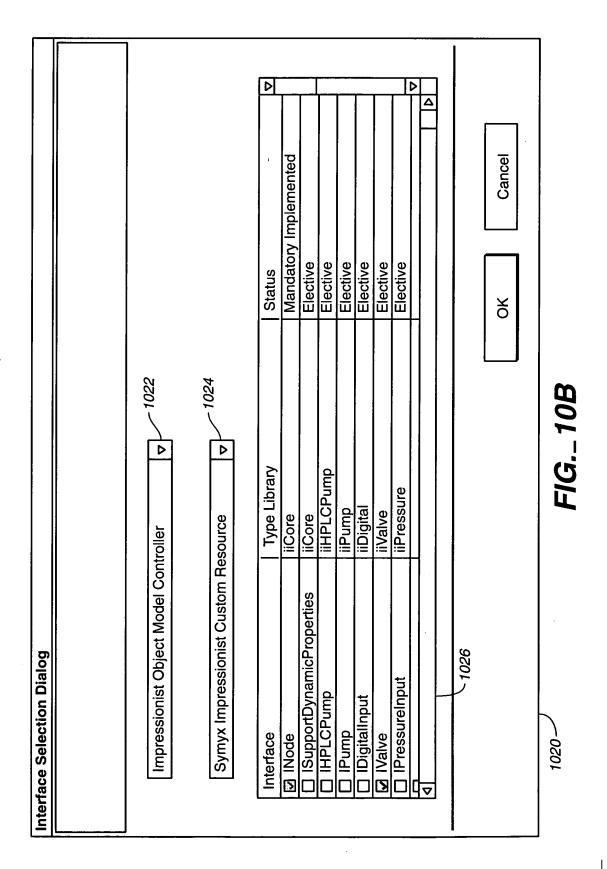


FIG._9B

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| mil Microsoft Visual Basic - Project1 | |
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| Project1 - CustomValveProject × | |
| | Machibal Machiba Machibal Machibal Machibal Machibal Machibal Machibal Machiba Machib |
| ⊕ & Custom Valve Project (Project1) | ⊛ Project1 - Class1 (Code) |
| Gass Modules | IValve ∇ Wait |
| Class1 | Option Explicit |
| ⊕⊡ Designers | Implements IValve |
| | Private Sub Class_Initialize() End Sub |
| Properties - Class1 x | |
| Class1 ClassModule $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | Fivace Sub Class_rerminace() |
| Alphabetic Categorized | |
| (Name) Class1 | Private Property Get IValve_Positions() As Long End Property |
| Instancing 3 - PublicCreatable | The interest to the transfer of the transfer o |
| | Filvace Floberty Let Ivalve_Fosition(Byval Newvalve As Long) End Property |
| | Private Property Get IValve_Position() As Long1032 |
| ` | Private Sub IValve_Iniialize() 1032 End Sub |
| | Private Sub IValve_Wait()1032 End Sub |

F/G._ 10C

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| | | | tha - Clace1 (Code) | | II | | مازملا | | | Ve." | | 1040 | \ | Enum Bogi tiona | fostcroms 10ns" 6" | ions | | | As Long tions.Text) | al newValue As Long) | s Long | |
| ntegrationDemo\Custom\ValveProject.vba | Window Help | 告 ※ ② Ln 16, Col 1 | - ENVRAIntegrationDemo/CustomValvaDroiset | | | implements lvalve brivate m Valvebosition na Ione | te m_Address As IPropertyInteger te m_NumPositions As IPropertySinglecChoice | | Dim AggNode As INode Set AggNode = TheContextObject | AggNode.Version = 1 AggNode.LconResiD = 0 AggNode.Name = "Dave's Custom Valve" | Set m_Address = New PropertyInteger m_Address.Name = "Address" m_Address.XMI,Tag = "Address" | m_Address.Name = "Address" = m_Address.TMLTag = "Address" | <pre>m_Address.Valve = 1 AggNode.Properties.Add m_Address</pre> | Set m NumPositions = New Property] | Set m_NumPositions = New PropertyEnum m_NumPositions.Name = "Number of Positions" m_NumPositions.Choices = "NumPositions" m_NumPositions.Choices = "2" 2 4 8 16 " | | | Sub | ate Property Get IValve_Positions() As Long IValve_Positions = CLng(m_NumPositions.Text) Property | ate Property let IValve Position(ByVal newValue As Long) m_ValvePosition = newValue Property | Private Property Get IValve Position() As IValve_Position | |
| /Custo | Add-Ins | Şiii | F-WF | Clace | | Town | Private Private | Private | | | | | | | | | | End | Private I End Prop | Private End Prop | Priv | |
| Jemo | | | K N | | - isn | | | | | | Δ | × | <u></u> | 1 | | | | | - | | | 룩 |
| / Microsoft Visual Basic - F:\VBAIntegrationDe | Eile Edit View Insert Format Debug Bun Tools | | Project1 - CustomValveProject | | ☐ ❤ CustomValveProject (F:\VBAIntegration Demo\Cus | | TheContextObjectModule | □ Class Modules | Class1 | | ∇ | Properties - Class1 | Class1 ClassModule | Alphabetic Categorized | (Name) Class1 | Instancing 3 - PublicCreatable | | | | | | |

FIG._ 10D

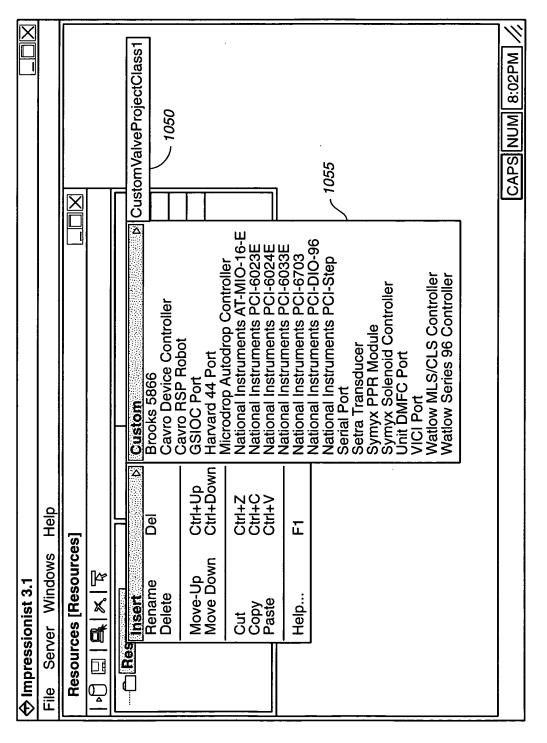


FIG._ 10E